

HIV Helper T-cell Epitopes

Table 2: p24

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
p24(133-147 IIIB B10)	p24(1-15)	PIVQNIQGQMVHQAI	HIV infection	human(unk)	[Wahren (1989b), Wahren (1989a)]
			• Peptides were identified that commonly evoke T-cell responses; 62% of 90 HIV+ people had a T-cell response to this peptide		
p24(143-157)	p24(11-26)	VHQQAISPRTLNAWVKC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
		• Matches 3/3 anchor residues for HLA DR: VHQQAISPRT			
p24(153-167)	p24(21-36)	NAWVKVVVEEKAFSPEC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
p24(163-177)	p24(31-46)	AFSPLEVIPMFSALSEC	Peptide stimulation <i>in vitro</i>	human (A*0201)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
		• This peptide contains a CTL epitope identified in HIV-positive patients			
		• Peptide binds to HLA A*0201 and causes up regulation of class I expression on T2 cells			
		• Matches 3/3 anchor residues for HLA DR: VIPMFSALS			
p24(173-187)	p24(41-56)	SALSEGATPQDNTMC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
p24(180-194)	p24(48-62)	TPQDLNTMLNTVGHH	HIV-1 infection	human(unk)	[Adams (1997)]
		• One of four immunogenic Gag peptides used in study of proliferative response to p24			
		• Homology to an SIV epitope recognized by macaque T-cells			
		• T cells from 8 of 19 HIV+ individuals responded to this epitope			
		• Improved assay system (increase in culture time to 8 days and addition of IL-2 to cultures) gave increased detection of proliferative response			

Location	WEAU	Sequence	Immunogen	Species(HLA)	References
p24(183-197)	p24(51-66)	DLNTMLNTYGGHQAAC <i>in vitro</i>	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
p24(203-217)	p24(71-86)	ETINEEEAAEWDRVHPC <i>in vitro</i>	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
p24(208-222 IIIB B10)	p24(76-90)	EAAEWDRVHPVHAGP	HIV infection	human(unk)	[Wahren (1989b), Wahren (1989a)]
		• 12 gag and 18 env T-cell sites were identified that could commonly evoke T-cell responses			
p24(208-217)	p24(76-85)	EAAEWDRVHP	HIV-1 infection	human(unk)	[Adams (1997)]
		• One of four immunogenic Gag peptides used in study of the proliferative response to p24			
		• T cells from 11 of 24 HIV+ individuals responded to this epitope			
		• Improved assay system (increase in culture time to 8 days and addition of IL-2 to cultures) gave increased detection of proliferative response			
p24(215-229 SF2)	p24(81-95)	DRVHPVHAGPIAPGQ	SF2 p24-Ty-VLP	macaque(unk)	[Mills (1990)]
		• Responses to 3 T-cell and multiple linear B-cell epitopes were found in vaccinated macaques			
p24(219-233 BRU)	p24(87-101)	HAGPIAPGQMRFPRG	peptide	murine(H-2 ^b)	[Vaslin (1994)]
		• Peptide G2; could prime for <i>in vitro</i> immunoproliferative responses and for subsequent IgG responses			
p24(228-235 LAI)	p24(96-103)	MREPRGSD?	HIV infection	human(unk)	[Schrier (1989)]
		• Stimulates T-cell proliferation in HIV-infected donors			

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p24(228-242 III B10)	p24(96-110)	MREPRGSKIAGTTST	HIV infection	human(unk)	[Wahren (1989b), Wahren (1989a)]
		• 12 gag and 18 env T-cell sites were identified that could commonly evoke T-cell responses by T-cell clone			
p24(235-249 SF2)	p24(101-115)	GSDIAGTTSTLQEQQI	SF2 p24:Ty-VLP	macaque(unk)	[Mills (1990)]
		• Responses to 3 T-cell and multiple linear B-cell epitopes were found in vaccinated macaques; defined by T-cell clone			
p24()	p24(101-116)	GSDIAGTTSTLQEQQIC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
p24(253-267)	p24(121-136)	NPPPIPVGEIYKRWIIIC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
p24(267-286)	p24(135-154)	ILGLNKIVRMYSPSTSILDIR	HIV-1 infection	human(unk)	[Adams (1997)]
		• One of four immunogenic Gag peptides used in study of the proliferative response to p24			
		• 8 of 24 HIV+ individuals responded to this epitope			
		• Improved assay system (increase in culture time to 8 days and addition of IL-2 to cultures) gave increased detection of proliferative response			
p24(265-279 SF2)	p24(131-145)	KIRWIIIIGLNKIVRMY	SF2 p24:Ty-VLP	macaque(unk)	[Mills (1990)]
		• Responses to 3 T-cell and multiple linear B-cell epitopes were found in vaccinated macaques; defined by T-cell clone			
p24(273-287)	p24(141-156)	IVRMYSPTSIIDIRQC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
		• Matches 3/3 anchor residues for HLA DR: IVRMYSPTS			

Location	WEAU	Sequence	Immunogen	Species (HLA)	References
p24(282-301)	p24(150-169) LDI[RQGPKEPFRDYV- DRFY?]	ILDIRQGPKEPFRDYV- DRFY?	HIV infection	human(unk)	[Schrier (1989)]
p24(278-292 IIIB B10)	p24(146-160)	SPTSILD[IRQGPKEP	HIV infection	human(unk)	[Wahren (1989b), Wahren (1989a)]
		• Stimulates T-cell proliferation in HIV-infected donors			
		• 12 gag and 18 env T-cell sites were identified that could commonly evoke T-cell responses			
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
p24(283-297)	p24(151-166)	LDI[RQGPKEPFRDYVC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
p24(287-309)	p24(155-177) ?	QGPKEPFRDYVDRFYK- TLRAEQA ?	Peptide immunization	murine(unk)	[Nakamura (1997)]
		• Mice immunized with this peptide generated proliferative responses, CTLs as well as antibodies			
		• This immunogenic domain is from a highly conserved region of p24			
p24(287-306)	p24(156-174)	QPKEPFRDYVDRFYKT- LRA	HIV-1 infection	human(unk)	[Adams (1997)]
		• One of four immunogenic Gag peptides used in study of the proliferative response to p24			
		• T cells from 5 of 21 HIV+ individuals responded to this epitope			
		• Improved assay system (increase in culture time to 8 days and addition of IL-2 to cultures) gave increased detection of proliferative response			
p24(288-302 IIIB B10)	p24(156-170)	GPKEPFRDYVDRFYK	HIV infection	human(unk)	[Wahren (1989b), Wahren (1989a)]
		• 12 gag and 18 env T-cell sites were identified that could commonly evoke T-cell responses			
p24(313-327)	p24(181-196)	VKNWMTEL[LLVQNANC	Peptide stimulation <i>in vitro</i>	human(unk)	[Bedford (1997)]
		• This epitope elicits a primary proliferative response in PBMC from uninfected donors			
		• Matches 3/3 anchor residues for HLA DR: VKNWWMTEL			